



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,097	07/29/2003	Jeffrey D. Hooker	03-0077.01	8484
21491	7590	04/17/2006	EXAMINER	
LANIER FORD SHAVER & PAYNE P O BOX 2087 HUNTSVILLE, AL 35804			CHORBAJI, MONZER R	
			ART UNIT	PAPER NUMBER
			1744	
DATE MAILED: 04/17/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/630,097	Applicant(s) HOOKER, JEFFREY D.	
	Examiner MONZER R. CHORBAJI	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/29/03&7/26/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/3/03&7/11/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This general action is in response to the application filing date of 07/29/2003

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 and 13-14 rejected under 35 U.S.C. 102(b) as being anticipated by Wrezel et al (U.S.P.N. 5,128,162).

With respect to claim 1, the Wrezel reference discloses an apparatus in figure 1 that includes the following: a first tank (figure 1:102), a second tank (figure 1:106), a third tank (figure 1:112), a reaction chamber (figure 1:104), a natural gravity separatory (col.15, lines 12-14) and a centrifuge (figure 1:110 and col.6, lines 3-57). With regard to the tanks containing the various recited liquids, it is considered intended use that does not further limit the scope of the claim. The tanks are capable of holding such featured liquids.

With respect to claims 2-7 and 13-14, the Wrezel reference teaches the following: the use of animal fats (col.2, lines 14-15), the use of vegetable oils (col.2, lines 27-28), the use of sodium hydroxide (col.5, lines 58-59), the use of methanol (col.4, lines 2-3), the reaction chamber is capable of transesterifying the emulsion (col.3, lines 14-37) and the use of natural gravity separator (col.15, lines 12-14). With respect

Art Unit: 1744

to "introducing fatty acid alkyl ester into the centrifuge" feature, it is considered intended use that does not further limit the scope of the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 8-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Wrezel et al (U.S.P.N. 5,128,162) as applied to claim 7 and further in view of Vanderspurt et al (U.S.P.N. 4,256,675) and Ergun et al (U.S.P.N. 6,440,057).

With respect to claim 8, the Wrezel reference teaches a first inlet (unlabeled inlet from tank 102 to reactor 104 in figure 1) and a first outlet (unlabeled outlet from reactor 104 to liquid/liquid centrifugation 110 in figure 1). With regard to the inlet and outlet for introducing and removing the various recited fluids, it is considered intended use that does not further limit the scope of the claim. The inlet and the outlet are capable of introducing and removing the featured liquids. However, the Wrezel reference fails to

Art Unit: 1744

teach the use of cooling jacket containing a pump and the use of a horn. The Vanderspurt reference teaches the use of a cooling jacket with a pump (figure 1:13 and 40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of the Wrezel reference by including a cooling jacket containing a pump as taught by the Vanderspurt reference since in order for the centrifugation step to be successful, the temperature in the centrifugation device must be maintained at 25 degrees Celsius (Wrezel reference, col.7, lines 34-38).

The Vanderspurt reference fails to teach the use of a horn. The Ergun reference teaches the use of an ultrasound device that inherently includes a horn (col.3, lines 9-13 and col.8, lines 54-57). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add an ultrasound device to the apparatus of the Wrezel reference since the use of ultrasound will result in enlarging the border surfaces of the transesterification reaction leading to an increased rate and faster rate for reaching the chemical balance state (Ergun reference, col.7, lines 47-63).

With respect to claims 9-11, both the Wrezel reference and the Vanderspurt reference fail to teach the use of ultrasonic device containing a horn; however, the Ergun reference teaches the use of an ultrasound device that inherently includes a horn (col.3, lines 9-13 and col.8, lines 54-57). Regarding, the recited frequencies and power density values in claims 10-11, the ultrasound device of the Ergun reference is capable of generating such values. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add an ultrasound device

Art Unit: 1744

to the apparatus of the Wrezel reference since the use of ultrasound will result in enlarging the border surfaces of the transesterification reaction leading to an increased rate and faster rate for reaching the chemical balance state (Ergun reference, col.7, lines 47-63).

With respect to claim 12, both the Wrezel reference and the Vanderspurt reference fail to teach operating temperature range of between 70 to 80 degrees Celsius and operating pressure of between 1.0 to 5.0 atmospheres; however, the Ergun reference teaches operating temperature range of between 40 to 70 degrees Celsius (col.8, lines 59-61) and the use of high pressure pump (col.8, lines 33-35) that is capable of operating at a pressure value of between 1.0 to 5.0 atmospheres. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add a high-pressure pump to the apparatus of the Wrezel reference in order to introduce the fats and the solution to the transesterification reaction section as taught by the Ergun reference (col.8, lines 33-37).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Kosanovich et al (U.S.P.N. 4,465,819) reference and the Perkins, JR (U.S.P.N. 2,447,529) reference both teach the use of multiple tanks along with emulsifying means. The Boateng et al (U.S.P.N. 4,915,919) reference teaches that separatory funnels are used to separate emulsions just as explained in the specification in paragraph 0025.

Art Unit: 1744


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 9:00-5:30.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLADYS J. CORCORAN can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monzer R. Chorbaji
Patent Examiner
AU 1744
04/12/2006

MRC


GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER